N. Y. C., Sept. 17, 1936; large stand in a waste place. My specimen is the only one from the eastern United States in the NYBG herbarium. This collection was the basis for the "*Solanum villosum*" record in Torreya **40:** 83 (1940).—NEW YORK BOTANICAL GARDEN.

NOTES ON ILEX

GABRIEL EDWIN

THREE changes in the status of taxa, now more or less commonly accepted, are suggested:

1. **Ilex longipes** Chapm. in Trelease, Trans. Acad. Sci. St. Louis **5:** 346. 1889. *I. collina* Alexander, Castanea **6:** 30. 1941.

Alexander proposed *I. collina* as differing from *I. longipes* in coloration of the lower leaf surface, position and size of the leaf-teeth, presence or absence of glands on these teeth, the depths of grooving of the nutlets, and the size and coloration of the fruit. He stated that *I. collina* is most closely related to *I. montana* Torrey and Gray. Woods (Castanea **10:** 126–127, 1951) indicated that the grooving of the nutlets may be less pronounced than described by Alexander, and that the affinities of *I. collina* lie closest to *I. verticillata* (L.) Gray, citing similarities of leaf venation, thickness and number of marginal teeth on the leaves and the shape of the calyx lobes. He also extended the range of *I. collina* from Randolph County, West Virginia to Smythe County, Virginia.

The depth of the grooves on the nutlets of the various taxa in native *Ilex* varies greatly within a species as well as between species and Woods was fully justified in dismissing this character as non-diagnostic.

The number of eciliate calyx lobes in *I. collina* is never greater than six. The usual number in *I. verticillata* is eight. Also, the shape, size and coloration of the leaves separate *I. collina* from *I. verticillata*. It differs from *I. montana* in the length of the pedicels, absence of fruiting spurs, which may also be absent from *I. montana* at times, and in the lack of hairs or cilia on the calyx. The leaves of *I. montana* are larger, darker and more chartaceous.

However, it is very difficult to distinguish *I. collina* from *I. longipes*.

The leaf margins of *I. longipes* may bear only cilia. However, they may also be almost wholly eciliate and slightly glandular, as in the specimens of *Demaree 15663*, Arkansas and *R. M. Harper*, April 4, 1936, Alabama. The Harper specimen displays a slightly more glandular condition. *Alexander, Everett and Pearson*, Alabama, Oct. 3, 1933, has sinuate-margined leaves with few cilia and almost no glands. The collection of *R. A. Dixon 432*, Madison Co., Texas, has eciliate leaf margins but about half the extensions of the veins are gland-tipped. An old Chapman collection from the mountains of Georgia is both ciliate and glandular.

The ciliate-glandular condition is the more prevalent one in *I. longipes*, while the type sheets of *I. collina* are glandular and eciliate. But this glandular-eciliate condition as discussed is not confined to *I. collina*, merely more pronounced. It may possibly indicate change which could lead to speciation, but at present this is merely conjecture. The variation from sinuate margins to ciliate to glandular-ciliate to glandular is haphazard and apparently without pattern except at the edges of the *I. longipes* range. The Texas specimen cited above, the only collection from that state seen thus far, is not typical of either *I. longipes* or *I. collina*. Very possibly it is a local southwest phase similar to that of Virginia-West Virginia which up to the present has been considered to be *I. collina*. No clear break in the continuity of *I. longipes* can yet be seen.

I. longipes and *I. collina* do not differ in size of fruit. Those of *I. longipes* vary from 5 to 9 mm. in diam., a range which includes that of *I. collina*. Fruit color in all native hollies often differs with the individual plants of a species so that any red-fruited holly species displays several shades of red. Each holly fruit color should be stated as a range (i.e.) scarlet to a lighter red for more accurate description. The colors of the fruits in *I. longipes* and *I. collina* readily fall into the same range.

The color of the foliage is another variable characteristic not only in the hollies here considered but throughout the genus. A distinction between "light green beneath" and "yellow-green beneath" seems to me to be untenable especially when there is great variability of this character as in those collections of *I. collina* cited by both Alexander and Woods.

In the general run of collections of *I. longipes*, the extent to which the leaf venation is impressed is closer to that of *I. verticillata* than to that of the type sheets and to some of the collections considered by Woods to be *I. collina*. Nevertheless, taking the collections as a whole, there is no real difference in venation between the sheets heretofore considered *I. collina* and those called *I. longipes*, The very numerous collections of the extremely plastic *I. verticillata* exhibit considerable diversity in the extent to which the leaf venation is impressed.

For the above stated reasons *I. collina* does not warrant recognition as a distinct taxon and is reduced to the synonymy.

2. **Ilex longipes** f. **van-trompii** Brooks, Castanea **5:** 15. 1940 (as *vantrompi*).
I. collina f. *van-trompii* (Brooks) Core and Davis, Proc. W. Va. Acad. Sci **16:** 39. 1944 (as *Vantrompii*).

With the reduction of *I. collina* to the synonymy of *I. longipes*, the yellow-fruited plants formerly considered to be a form of *I. collina* are recognized under *I longipes* where Brooks first placed them.

3. **Illex verticillata** (L.) Gray. *I. verticillata* var. *padifolia* (Willd.) T. & G.

Var. *padifolia* has long been recognized as a morphologically distinct entity, differing from *I. verticillata* on the basis of leaf-pubescence. The typical form is glabrous or bears trichomes only on the veins of the lower leaf-surface, while the variety has trichomes on the tissue as well as the veins.

A careful study of over 1000 herbarium sheets of the verticillata complex strongly indicates that var. *padifolia* is not distinct from typical *verticillata*. As suggested by Trelease in Gray's Synoptical Flora (1897), "the original *Prinos padifolius* Willd. (Enum. 394) is scarcely more than the common form of *I. verticillata*."

The collection of *William H. Leggett*, July 9, 1870, at Carlstadt, New Jersey, displays the pubescence of typical *I. verticillata* on the upper leaves and that of var. *padifolia* on the lower leaves of the same branchlet. One of the lower leaves shows an example of var. *padifolia* pubescence in the extremely dense condition. The collection of *L. H. Pammel & V. C. Fish 424*, Houghton, Michigan, shows the pubescence of var. *padifolia*,

the typical *verticillata* and an intermediate condition all on one branchlet.

The many borderline cases between the two constitute further evidence that there are two names for one entity. Among collections showing this are *H. A. Gleason & H. A. Gleason, Jr.*, July 3, 1953, Michigan; *R. W. Chaney 201*, Michigan; *C. C. Deam*, Indiana, July 11, and Sept. 20, 1903. All specimens cited are from the herbarium of the New York Botanical Garden.

It should be indicated here that other described varieties of *I. verticillata* may not be distinct taxa, but to determine this, further study is required.

Ilex ambigua (Michx.) Chapm. f. **channellii** forma nova.

Ramuli puberuli pilis brevibus mollibus albis; folia saepius minora, lamina 2.4–4. cm. longa. Differs from the typical form in having the branchlets puberulent with short, soft, white hairs; leaves up to 4 cm. long, but mostly shorter.

The three collections thus far seen are from small trees, about 10 feet high.

TYPE: *R. B. Channell 2440*, Jackson County, Mississippi, about 1½ miles west of Alabama State Line, about 3½ miles N. of Pecan and about 1½ miles N. of U. S. 90, 16 Aug. 1953. (US, ISOTYPE Duke). *Channell 2416*, Jackson Co., Miss. *Channell 2422*, Jackson Co., Miss.—HERBARIUM, U. S. NATIONAL ARBORETUM, BELTSVILLE, MARYLAND.

WHITE-FLOWERED FORMS OF LIATRIS AND VERNONIA.—In the Chicago region two white-flowered forms, one in *Liatris cylindracea* Michx., the other in *Vernonia missurica* Raf., have been discovered within the past three years. Since other white-flowered forms have been recognized in these two genera, it is in keeping with consistency to record the present ones previously undescribed. It affords me great pleasure to associate the names of these plants with their discoverers, Mr. Floyd A. Swink and Mr. Karl Bartel, keen students of the flora of the Chicago region.

Liatris cylindracea Michx., forma **Bartelii** Steyermark, f. nov.—A varietate *cylindracea* recedit floribus albidis.—Indiana: lake sand along